Section 1 Environmental Rules and Requirements

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7-101 General

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This section provides information and guidelines for administering the various environmental requirements for Caltrans contracts.

The district construction deputy director is responsible for ensuring that environmental and permit requirements are enforced. To meet legal requirements, district construction staff must receive appropriate training, possess appropriate skills, and understand their role in successfully carrying out environmental measures. Within the district construction division, appropriate environmental-construction liaison and storm water coordinators must be appointed.

7-102 Environmental Commitments Record

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Caltrans has established the Environmental Commitments Record or Mitigation Monitoring and Reporting Record to ensure that Caltrans meets it environmental commitments by:

- recording each environmental mitigation, compensation, and enhancement commitment made for an individual project;
- specififying how each commitment will be met;
- documenting the completion of each commitment.

The Environmental Commitments Record contains all relevant environmental compliance information. It aids in preparing the resident engineer pending file, monitoring environmental compliance, and preparing the Certificate of Environmental Compliance.

Each district establishes their own format for the Environmental Commitments Record. The Environmental Commitments Record must contain basic project information; each environmental commitment, person or branch responsible for completing the commitment, how and when the commitment will be implemented, the commitment location, a commitment reference document, and other commitment requirements.

The resident engineer should review the Environmental Commitments Record with the environmental-construction liaison or district environmental unit during the preconstruction meeting with Caltrans personnel before meeting with the contractor. The environmental-construction liaison or district environmental unit can assist the resident engineer in discussing the requirements at the contractor's preconstruction conference. The resident engineer should ensure that all environmental commitments are implemented and then monitor the progress of their implementation on a quarterly or more frequent basis.

7-103 Protection of Environmental Resources

The following are guidelines for fulfilling the responsibility for protecting and preserving various environmental resources during construction as required by law.

7-103A Archeological and Historical Resources

Mitigating a project's impact on historical and archaeological sites during construction may require the recovery of artifacts. Mitigation may also require Native Americans, archeologists, architects, and historians to monitor and coordinate the recovery process. Normally, archaeological work is done in advance of construction, but occasionally, finds are made during construction. If human remains or previously unknown historic and archaeological artifacts are unearthed, suspend work in the vicinity until the find can be evaluated and properly treated. Procedures and responsibilities are detailed in the *Caltrans Environmental Handbook*.

7-103B Endangered Species

Both state and federal laws are designed to protect designated plant and animal species along with their respective habitats. As a result, often very strict prohibitions exist on certain types of work, work during certain times of the year, or work at specific locations. Even inadvertently impacting protected species can result in fines or jail sentences. The contract will specify the necessary measures and restrictions, and the plans will show environmentally sensitive areas. However, during construction, project crews may discover protected species that were not anticipated in the contract. If such a discovery occurs, suspend work in the area and immediately notify the district environmental - construction liaison or district environmental unit.

7-103C Migratory Bird Act

The Migratory Bird Treaty Act (MBTA) makes it illegal to harm migratory birds or their occupied nests. Activities which are most likely to encounter migratory birds and their nests include clearing and grubbing or bridge demolition, maintenance and retrofit work.

The environmental - construction liaison should attend the preconstruction meeting to discuss the requirements of MBTA and necessary preventive measures to ensure compliance and limit project impacts. When occupied nests are found within the project area, the resident engineer should evaluate whether or not work in the area can continue or if suspension of work is necessary. The resident engineer should immediately contact the district environmental - construction liaison or district environmental unit for assistance in this evaluation.

7-103D Disposal, Staging and Borrow Sites

The instruction contained in this section pertain to all contractor disposal, staging and borrow sites.

Caltrans construction projects often require contractors to make use of either state owned or private off-site lands and facilities for the disposal of excess materials, the acquisition of necessary borrow materials, and to stage equipment, store supplies, and to house their offices. Contract documents generally require the contractor to show that construction activities on these sites comply with all local, state and federal environmental and permitted use regulations. However, recent history has shown that in some geographic locations there have been issues regarding final compliance responsibility. To resolve these issues and to foster better cooperation with regulatory agencies, the option of designating disposal, staging and borrow (DSB) sites has been facilitated.

Those construction projects that cannot accommodate the disposal, staging, or borrow material needs of the project within the right-of-way may have designated sites for these purposes located outside the project limits. However even when such sites are made available, the contractor will continue to have the flexibility to use alternative sites. Alternative sites selected by the contractor require the contractor to prepare and submit a to the engineer for approval a DSB site submittal. Requirements for this submittal are outlined below under Section 7-103D(1), "Caltrans and Contractor Designated Disposal, Staging and Borrow Sites," of this chapter.

The need for identifying and clearing a designated DSB will generally have been made by the project engineer on a case by case basis, considering historical and geographical issues and practices, project design requirements, environmental concerns, economic factors, and other aspects specific to projects and their locale. During project development, the project engineer should have considered and identified sites readily available for use by the contractor. These sites would have included, but not be limited to, commercial dumpsites, recycling plants, private property and other local sites. If it was determined necessary that one or more DSB sites needed to be designated, then the project engineer would have proposed sites evaluated during the environmental review process, and as necessary, included them in the environmental compliance documentation. To ensure their availability to the contractor, right-of-way agreements would have been obtained for private sites selected as designated DSB sites. Any necessary permits for selected DSB sites would have been included among those obtained during the Plans Specifications and Estimate development. Information or documents regarding arrangements made by Caltrans to ensure the availability of designated sites are provided to prospective bidders or contractors in a materials information handout.

Contractors use of designated sites is not mandatory unless stated in the special provisions. If the contractor chooses to use an alternate site, a DSB site submittal must be made by the contractor and approved by the resident engineer. The contractor can obtain the DSB Site Submittal information at:

http://www.dot.ca.gov/hq/oppd/design/m121201.pdf

Summaries are provided below for the minimum items expected in a: 1) DSB site submittal for a site designated by Caltrans; and 2) a summary of the minimum items expected in a DSB site submittal for a contractor to get approval for the use of an alternate site. The submittal and support documents are then filed under Category 18 (Borrow and Disposal Agreements and Permits).

7-103D (1) Caltrans & Contractor Designated Disposal, Staging and Borrow Sites

For Caltrans designated disposal, staging and borrow (DSB) sites

- Caltrans will:

  1. Provide a general site plan, including site limits and access roads,
  2. Obtain temporary property owner agreements as necessary to "reserve" property,
  3. Prepare California Environmental Quality Act or National Environmental Policy Act documentation as needed,
  4. Verify the existence of or obtain the necessary permits, licenses, and agreements to satisfy regulatory agencies and ensure site availability, and
  5. Review and approve contractor's submittal.

- The contractor will:

  1. Prepare a final grading plan in conformance with the *Standard Specifications*,
  2. Provde a release of liability,
  3. Provide final property owner agreements (See Section 3-607, "Local Materials"), and
  4. Submit Water Pollution Control Plan.

For alternative sites (outside the right-of-way) selected by the contractor,

- Caltrans will review and approve contractor's submittal
- The contractor will:

  1. For borrow sites, demonstrate that the site is exempt or in compliance with Surface Mining and Reclamation Act (SMARA), (that is listed on the AB 3098 SMARA eligible list); and
  2. For all DSB sites,

     Provide a site plan, including site limits and access roads,

     Obtain property owner agreements (see Section 3-607, "Local Materials")

     Provide release of liability,

     Provide final property owner agreements,

     Provide environmental documentation prepared by appropriately qualified environmental specialists,

     Obtain or update all necessary permits, licenses, and agreements

     Determine final grading plan in conformance with *Standard Specifications, and*

     Submit Water Pollution Pollution Control Plan.

7-103D (2) Surface Mining and Reclamation Act

The State Contract Act prohibits Caltrans from buying aggregate or any other mined materials from sources not exempt or not compliant with the Surface Mining and Reclamation Act of 1975 (SMARA). Mining operations determined to be in compliance are listed on the AB 3098 SMARA eligible list. You can obtain this list from the Division of Construction or the Department of Conservation's web site at:

http://www.consrv.ca.gov/omr/SMARA/

Generally, Caltrans cannot accept material from unlisted sites. However, the State Mining and Geology Board may grant one-time exceptions. To comply with SMARA and the State Contract Act, imported materials from the following sources must be listed on the AB 3098 list:

- Materials from mined sources,
- Materials from commercial vendors and suppliers,
- Materials from federally owned lands where an agreement exists between the federal landholding agency and the California Department of Conservation that SMARA applies, and

- Materials from Native American reservations, where an agreement exists between the reservation and the Department of Conservation that SMARA applies or a nontribal mine operator is present.

In addition to the specific exemptions listed in SMARA (that is, less than 1,000 cubic yards, and others), Caltrans has determined that imported material from the following types of sources comply with SMARA and do not require inclusion on the AB 3098 list:

- Imported material from a development or other nonmining source where the material is a byproduct of construction and this source has approval in a local agency plan and through the California Environmental Quality Act.
- Excess material generated from a Caltrans project whose environmental approval appropriately considered the construction phase and met approval requirements for reclamation of the site.
- Materials from failures of natural or man-made slopes within Caltrans' right-of-way as a result of storm slides, or slipouts.
- Materials from outside the State of California.
- Materials originating from Native American reservations where no agreement exists between the reservation and the Department of Conservation that SMARA applies and a tribal mine operator is present.
- Materials from federal land when no agreement exists between the federal landholding agency and the Department of Conservation that SMARA applies.

For assistance with resolution, refer any challenges to the acceptance of materials to the Division of Construction field coordinator.

7-103D (3) Other Contractor Uses of the State Right of Way

The contractor's use of Caltrans owned parcels that are not designated on the plans will be contingent upon successful approval by the resident engineer based on: 1) the DSB site submittal; 2) the execution of a fair market rental agreement with Caltrans; and 3) the execution of an encroachment permit by the district permit engineer. The resident engineer should consult with the project engineer and environmental - construction liaison or district environmental unit before approving the DSB site submittal.

- The contractor may arrange for temporary storage of equipment and materials on Caltrans property with the resident engineer.
- The contractor uses authorized work areas and other approved Caltrans owned property at the contractor's own risk; the contractor can not hold Caltrans liable for damage to or loss of materials or equipment located within such areas.
- The contractor must maintain areas designated for contractor's use in a neat and presentable condition. Adequate measures must be in place to protect soil, groundwater, noise, and air contamination.
- Before final inspection of the work, the contractor must remove equipment, materials, and rubbish from the work areas and other Caltrans owned property that the contractor occupies. The contractor must leave the areas in a neat and presentable condition in conformance with the provisions in Section 4-1.02, "Final Cleaning Up," of the *Standard Specifications*.

During the development of the project, the project engineer may identify areas on the right-of-way for the disposal of portland cement concrete grinding and grooving residue. The project engineer may identify these areas in the materials information handout or in the contract. If a RWQCB permit or approval has not been included, contact your environmental - construction liaison for assistance in obtaining the documents. Refer to the contract special provisions to obtain information about off-site disposal facilities for portland cement concrete grinding and grooving residue.

7-103D (4) Contractor Use of Areas Outside of the State Right of Way

If sufficient area is not available to the contractor within the contract limits or at the Caltrans owned sites outside the contract limits designated on the plans, the contractor must secure, at the contractor's own expense, areas required for plant sites, storage of equipment or materials, or other purposes. The contractor must complete the Disposal, Staging and Borrow (DSB) Site Submittal and obtain the resident engineer's approval.

The contractor's use of parcels outside of the Caltrans right-of-way and that are not designated on the plans will be contingent upon successful approval by the resident engineer of the DSB site submittal.

7-104 Air, Water, and Noise Pollution Control

7-104 Air, Water, and Noise Pollution Control

This section contains guidelines for administering the contract's air, water, and noise requirements.

7-104A Air Quality

All Caltrans projects must comply with the Clean Air Act. Permits are issued by local air quality management districts and require that the project create no smoke, offensive odors, or visible dust. Contractors must take appropriate measures to ensure their equipment is properly maintained and to apply water and other dust palliatives as frequently as necessary. Violations can result in fines and sanctions against the contractor and Caltrans.

In areas where naturally occurring asbestos has been identified, the specifications will set forth additional requirements to protect workers and the public. In this case, the resident engineer should include consideration of asbestos in the project code of safe practices.

7-104B Water Pollution Control

To ensure the control of pollutants in discharges of storm water runoff, Caltrans projects may be subject to federal law under the Clean Water Act and state law under the Water Code. The regulations require a National Pollutant Discharge Elimination System Permit (storm water permit), issued by the State Water Resources Control Board (SWRCB). The specifications require the contractor to conform to the permit's requirements.

For each construction project, the contractor must prepare a water pollution control program (WPCP) in accordance with Section 7-1.01G, "Water Pollution," of the *Standard Specifications*, *Caltrans Storm Water Quality Handbooks*, and the contract's special provisions. These documents describe the measures the contractor must implement to ensure that construction activities do not pollute the waters of the state. The resident engineer must approve all such preventive measures, and then the contractor's forces must implement and maintain the measures.

Successfully protecting from pollution the state's water resources (rivers, lakes, and streams) is critical to the project's success. These waters must be protected from chemical pollutants and from sediment in storm water runoff. Chemical pollutants include petroleum products, paint residues, and curing compounds. The Division of Environmental Analysis, in conjunction with the Division of Construction, has organized a task force (known as the "storm water task force"), consisting of construction environmental specialists. This task force visits the projects, reviews the contractor's WPCP, and acts as technical advisors to the resident engineer.

7-104B (1) District Construction Storm Water Coordinator Responsibilities

District construction must have a designated construction storm water coordinator who will carry out necessary administrative functions to prevent water pollution. The coordinator will work with other functional areas in the district, assist resident engineers to ensure compliance, and ensure that field construction personnel are appropriately trained.

7-104B (2) Resident Engineer Responsibilities

The resident engineer must use all available assistance and expertise in preventing water pollution. This assistance may come from the construction storm water coordinator, other functional areas in the district (such as the environmental and hydraulics units), or the storm water task force.

Before work begins, the resident engineer must do the following:

- Designate appropriate staff as storm water inspectors to assist in preventing storm water pollution.
- Review the construction contract and the resident engineer's file for instructions and commitments.
- Ensure that all proper forms have been filed with the Regional Water Quality Control Board (RWQCB).
- Meet with the appropriate environmental and engineering experts in the district to ensure a full understanding of the contract requirements for water pollution prevention.
- Conduct a preconstruction meeting with the contractor to discuss all required storm water measures and requirements. Depending on the project's size and complexity, this preconstruction conference may be used exclusively for discussing water pollution prevention or the topic may be included in a general preconstruction conference.
- Provide the contractor with a copy of the conceptual storm water pollution prevention plan (SWPPP) if one has been prepared, by the district design unit, for the project.
- Review and approve the contractor's SWPPP or WPCP as required by the specifications. The construction storm water coordinator and the storm water task force may assist in the review. Note that before the resident engineer has accepted the plan, the specifications prohibit any work that has the potential to cause water pollution.
- Before any earthwork begins, direct the contractor to deploy any storm water "best management practices" (BMPs) called for in the SWPPP or WPCP.

During the course of work, the resident engineer must do the following:

- In compliance with the storm water permit, maintain a copy of the SWPPP or WPCP on the project site.

- Inspect the contractor's operations for compliance with the specifications and the approved SWPPP or WPCP, including deployment of BMPs.
- Ensure the contractor adheres to the inspection schedule set forth in the SWPPP or WPCP and provides written reports of these inspections.
- Ensure the contractor maintains BMPs so that they will function as planned.
- Ensure the contractor has the necessary materials on hand to deploy any necessary additional BMPs in the event of a storm.
- Ensure the contractor uses appropriate measures to stabilize slopes at the times specified.
- In accordance with the specifications, ensure the contractor submits an implementation schedule for soil stabilization and sediment control for disturbed soil areas.
- Ensure the contractor complies with the provisions that restrict the size of the contractor's disturbed soil area.
- Ensure the contractor notifies the resident engineer and obtains the resident engineer's approval in advance for each first-time nonstorm water discharge, excluding exempted discharges.
- Monitor the contractor's active and nonactive disturbed soil areas. Ensure the contractor conducts soil stabilizing activities as specified.
- Ensure the contractor deploys storm water and nonstorm water BMPs whenever associated construction activities are taking place.
- Direct the contractor to correct any deficiencies in compliance efforts identified as a result of reviewing the contractor's or compliance task force's written reports.
- If any pollutants are discharged into the waters of the state, notify the construction storm water coordinator immediately. Review the storm water permit to determine the appropriate reporting timeframe, and provide a draft report of noncompliance to the construction storm water coordinator. The construction storm water coordinator will then forward the report to the RWQCB.
- Report to the construction storm water coordinator any illegal discharges or connections. Require the contractor to prepare a notice of discharge as specified in the SWPPP.
- If noncompliance occurs, take appropriate contractual sanctions against the contractor based on the nature and severity of the situation. Such sanctions include the following:

    1. Withholding funds from contract payment as specified in the contract.
    2. Suspending any work that would exacerbate the noncompliance or interfere with or prevent the contractor's efforts to correct the deficiency. For example, earthwork operations may be suspended until the contractor controls sediment or stabilizes soil as specified. Other work performed by a crew might be suspended if that crew is needed to install BMPs.
    3. Bringing in a separate contractor to complete the work and billing the contractor or the contractor's bonding company for all costs.

- Meet with personnel from regulatory agencies, such as the United States Environmental Protection Agency (EPA) and the RWQCB, and the storm water task force to discuss storm water issues and measures.
- Ensure the contractor submits an annual certification of compliance as specified. Sign, date, and file this certification in the project records.

Before accepting the contract, the resident engineer must do the following:

- As required by the contract, determine that all slopes are stabilized.
- Require the contractor to remove temporary BMPs such as silt fences or other measures that are not a part of permanent erosion control or that the district maintenance unit has not requested to be left in place.
- Conduct a final walk-through of the project area with the maintenance superintendent or region manager.

Upon acceptance of the contract, file Form CEM-2003, "Notification of Completion of Construction," with the RWQCB.

7-104B (3) Storm Water Inspector's Responsibilities

The resident engineer may assign an assistant resident engineer as the storm water inspector. The storm water inspector will assist the resident engineer in carrying out any or all of the inspection tasks and other work described above, as determined by the resident engineer. Typically, the storm water inspector will do the following:

- Review and become familiar with the *Standard Specifications* and special provisions pertaining to water pollution control.
- Review and become familiar with the approved WPCP or SWPPP.
- Conduct site inspections. Verify that BMPs are properly installed and meet the requirements in the *Caltrans Storm Water Quality Handbooks* and the contract specifications. Look for areas that may require BMPs that are not deployed or not addressed in the WPCP or SWPPP. Observe and identify any discharges, illicit connections, and illegal discharges. Take photographs of all areas.
- Prepare special daily reports on storm water pollution prevention. Record all storm water management activities, or inactivity, and conversations with the contractor regarding storm water pollution prevention. Record site visits from regulatory agencies, such as the (SWRCB), the RWQCB, or EPA, and any inspections the agencies perform.
- Monitor the weather reports of the National Weather Service for rainfall predictions. If rainfall is predicted, direct the contractor to deploy appropriate BMPs as identified in the SWPPP or the WPCP.
- Inform the resident engineer immediately of any problems with BMPs during the implementation of the WPCP or SWPPP and any observed discharges.
- Identify changes in construction that may require amendments to the WPCP or SWPPP, and notify the resident engineer of these findings.
- For sites covered by permits, ensure site access and the safety of representatives of regulatory agencies and local agencies when they are on site for any reason.

7-104B (4) Contractor's Inspections

The special provisions for water pollution control require the contractor to regularly inspect the construction site for the proper implementation, performance, and maintenance of BMPs identified in the WPCP or SWPPP. The contractor must follow the site inspection procedure specified in the *Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program Preparation (WPCP) Manual* (plan preparation manual). Trained personnel must conduct the site inspections, using the site inspection checklist, a copy of which must be provided to the resident engineer.

The contractor must notify the resident engineer whenever the SWPPP, WPCP, or BMPs may not reduce or have not reduced the discharge of sediment or other pollutants into a waterway. The contractor must follow the verbal notification with a written report. The contractor's report must conform to the provisions of Section 600.2, "Discharge Reporting," of the plan preparation manual.

If the situation constitutes noncompliance with the permit, the resident engineer must conduct a verification inspection, and if a noncompliance condition exists, report it to the construction storm water coordinator. The construction storm water coordinator will report it to the appropriate RWQCB. The resident engineer must require the contractor to amend the WPCP or the SWPPP, if necessary, to install additional BMPs.

7-104B (5) Amendment Review and Processing

During construction, conditions may occur that affect the ability of the contractor to implement the WPCP or SWPPP as initially approved or the ability of the approved WPCP or SWPPP to meet the objectives for water pollution control. A change in construction operations or site conditions may result in the discharge of significant quantities of pollutants to surface waters or municipal storm drain systems. These changes can include construction staging or schedule changes, staging area modifications, unanticipated offsite drainage impacts, and failures of BMPs. The contractor must amend the WPCP or SWPPP if either of these plan's effectiveness is diminished by any such changed condition. The SWPPP must also be amended if it violates any condition of the permit.

Upon the resident engineer's approval, the contractor must incorporate all WPCP or SWPPP amendments into the on-site documents. The contractor must prepare WPCP amendments in the format prescribed in Section 40, "Amendments," in Section 3 of the plan preparation manual. The contractor must prepare SWPPP amendments in the format prescribed in Section 200, "SWPPP Amendments," in Section 2 of the plan preparation manual. In addition, SWPPP amendments must be entered into an amendment log, as shown in Section 200.2,"Amendment Log," in Section 2 of the plan preparation manual.

The resident engineer must review the contractor's proposed WPCP or SWPPP amendment for completeness and conformance with the revised conditions, and give written approval to the contractor if the amendments are acceptable.

7-104B (6) Project Files

The resident engineer must keep copies of all documents related to storm water pollution prevention in category 20, "Water Pollution Control Plan or Storm Water Pollution Prevention Plan," of the project files. Retain all the required documents for at least three years after contract completion. These documents include the following:

- SWPPP or WPCP and all amendments.
- Daily reports and photographs related to the prevention of storm water pollution.

- The contractor's site-inspection checklists.
- The contractor's reports of discharge.
- All correspondence related to storm water pollution prevention, including notices of noncompliance.
- Inspection reports from the storm water compliance task force.
- Inspection reports from the resident engineer and assistant resident engineer.
- Copies of the certifications required by the specifications, and
- Form CEM-2003, "Notification of Completion of Construction."

7-104B (7) Contractor's Files

The specifications require the contractor to keep at the project site copies of the SWPPP or WPCP and all approved amendments.

7-104C Noise Control

Construction and traffic noise is often a sensitive issue in neighborhoods and communities adjacent to state highways. Major funding often has to be provided to pay for highway noise reduction through the construction of sound walls and other noise attenuation. Construction contractors are required to have appropriate noise attenuators in good working condition on all equipment. Special restrictions may be employed on night work in sensitive areas, such as residential neighborhoods, schools, or hospitals near the project site.

7-105 Permits

This section covers environmental related permits issued by regulatory agencies.

7-105A Special Use Permits

The U.S. Forest Service, Bureau of Land Management, and other federal agencies issue special use permits to Caltrans to construct and operate highway facilities across lands under their jurisdictions. Special use permits often require Caltrans to construct facilities in certain ways to protect the environment.

7-105B Fish and Game Code Sections 1601 and 5650

Section 1601 of the Fish and Game Code requires that public agencies such as Caltrans reach an agreement with the California Department of Fish and Game if the proposed work affects a waterway. The agreement required by this section of the code is known as the "Lake/Streambed Alteration Agreement," also known as the 1601 agreement. Blue lines on an U.S. Geological Survey (USGS) map are considered a waterway. The California Department of Fish and Game may also designate other areas as protected waterways, such as roadside ditches or ephemeral streams. When in doubt, consult with your representative from the California Department of Fish and Game. The 1601 agreement specifically prohibits polluting the waters of the state and may specifically prohibit certain activities at certain times of the year, such as work in the river during spawning season. The agreement may also require the contractor to undertake specific measures, such as installing fish ladders. Violations of the agreement are punishable by fine, imprisonment, or both.

Section 5650 of the Fish and Game Code prohibits the placement of specified materials in the waters of the state. Violations can result in major fines or even jail. Examples of violations include the following:

- Causing dirt and sediment to enter the waters of the state.
- Using creosoted timbers in the waters of the state.
- Placing petroleum products, such as asphalt or diesel, into, or where they can get into, the waters of the state.

Placing asphalt concrete grindings, chunks, and pieces in areas where they can pass into the waters of the state is also a violation of Section 5650 of the Fish and Game Code. A memorandum of understanding exists between the California Department of Fish and Game and Caltrans regarding the placement of asphalt concrete pavement grindings as shoulder backing and the placement of asphalt concrete pieces and chunks in embankments. For a discussion of reusing asphalt concrete as fill material and shoulder backing and a summary of the memorandum of understanding, refer to Section 611.11, "Conservation of Materials and Energy," of the *Highway Design Manual*. If a question exists as to whether asphalt concrete grindings or chunks may get into the waters of the state, consult with your California Department of Fish and Game representative.

7-105C List of Potential Permits

The first table below may be used as a guideline for when permits or approval of contract plans may be required from state or local governmental agencies. The left-hand column lists the activity or a resource affected by construction activity. The second column lists the agency or agencies that may have jurisdiction in the area shown in the first column. The third column indicates the type of permit or plan approval that may be required by the agency or agencies. Most required permits and plan approvals should be obtained during the project's design phase. However, the table may be used as a reminder of the types of permits and plan approvals that may be required when making changes to the original plans.

The second table below lists federal environmental statutes and regulations. The first column lists resources or activities. The second column shows the federal agency having jurisdiction in the area, and the third column lists the statute or regulation that applies to the resource or activity.

Table 7-1.1 State and Local Agency Permits (1 of 3)

Resource or Activity	Agency	Permit or Approval
Commercial, industrial, and residential development	Local agency (county or city)	Land use, general plans, specific plan, conditional use, or subdivision
Conversion of timberland to nonforest uses through timber operations and immediate timberland production zone rezoning	California Department of Forestry	Timberland conversion permit
Power transmission lines, pipelines, and railroad crossings	Public Utilities Commission	Review of plans and approval
Solid waste disposal	California Integrated Waste Management Board	Disposal requirements
Sewage disposal	County health department	Disposal requirements
Waste discharge	State Water Resources Control Board; Regional Water Quality Control Board	Discharge requirements
Storing, treating, or disposing of hazardous waste	Department of Toxic Substances Control State Water Resources Control Board; Regional Water Quality Control Board; local agency	Hazardous Waste Facilities Permit Hazardous waste discharge requirements; Underground Storage of Hazardous Substances Permit
Right-of-way across state parkland	California Department of Parks and Recreation	Right of-way permit, license, easement, joint agreement, or lease
Encroachment on or across a local street or highway	Local agency (county or city)	Encroachment permit
Encroachment on 100-year floodplain, intermittent streams, and desert washes	California Department of Fish and Game	Lake/Streambed Alteration Agreement (1601 agreement)
Encroachment on or across cove, bay, or inlet	Department of Boating and Waterways	Review of plans
Air quality	Air Resources Board or local air pollution control district	Authority to construct and permit to operate for activities emitting stationary source pollutants to the atmosphere
Fish and wildlife habitat	California Department of Fish and Game	Lake/Streambed Alteration Agreement for activities in lakes, streams, and channels and crossings

Table 7-1.1 State and Local Agency Permits (2 of 3)

Water	California State Lands Commission	Land use lease (for encroachments, crossings on tidelands, submerged lands, and so forth.)
	State Water Resources Control Board; Regional Water Quality Control Board	National Pollutant Discharge Elimination System Permit for storm water discharges to surface water; Waste discharge requirements for nonstorm discharges to surface water or groundwater to the waters of the state
	Department of Health Services, Division of Drinking Water and Environmental Management; or local health office	Permit to Operate a Public Water System
Dredging	California Department of Fish and Game State Lands Commission	Standard or special suction dredging permit dredging permit
Surface (material borrow sites, and so forth)	Local agency (county or city)	Surface Mining and Reclamation Act (SMARA) permit
Burning	Local air pollution control district; California Department of Forestry; local fire control agency	Burn permit
Grading	Local agency (county or city)	Grading permit
Entering private property ? to gather information ? for temporary use	Caltrans district right-of-way unit Caltrans district right-of-way unit Property owner right of entry approval	Property owner approval for temporary encroachment
Entering surface waters to gather information or for construction	Regional water quality control board	Water quality certification or waiver
All activities involving dams or reservoirs	California Department of Water Resources, Division of Safety of Dams	Approval of plans

Table 7-1.1 State and Local Agency Permits (3 of 3)

Resource or Activity	Agency	Federal Statute, Regulation or Executive Order
Water	US Army Corps of Engineers ; United States Environmental Protection Agency (EPA); Bureau of Reclamation; U.S. Fish and Wildlife Service; National Marine Fisheries Service	Federal Clean Water Act (Section 404) Regulations concerning the National Pollutant Discharge Elimination System (40 CFR)
Air	United States Environmental Protection Agency	Clean Air Act, Title 42, sections 7401 through 7414
Fish and Wildlife Habitat	U.S. Fish and Wildlife Service; U.S. Forest Service; The National Park Service; National Marine Fisheries Service	Endangered Species Act (Section 7)
Navigable Waters	US Army Corps of Engineers; U.S. Coast Guard	Rivers & Harbor Act
Federal Lands	U.S. Forest Service; Bureau of Land Management; National Park Service	
Historic Properties	Advisory Council on Historic Preservation	National Historic Preservation Act (Section 106)
Coastal Zone	US Army Corps of Engineers; U.S. Fish and Wildlife Service; National Oceanic and Atmospheric Administration	
Wild and Scenic Rivers	National Park Service	Code of Federal Regulations: 36 CFR 297; 43 CFR 8350
Wetlands	US Army Corps of Engineers; United States Environmental Protection Agency	Executive Order 11990 (Protection of Wetlands)
Floodplains	Federal Emergency Management Agency	Executive Order 11988 (Floodplains Management)
Dredging	US Army Corps of Engineers; U.S. Coast Guard	
Airport Airspace	Federal Aviation Administration	Federal Aviation Regulations, Part 77
Farmland	National Resources Conservation Service	Farmland Protection Policy Act

7-106 Environmental Hazards and Safety Procedures

This section contains guidelines for handling and dealing with hazardous materials, hazardous waste, and hazardous spills on construction projects. See Table 7-1.1, "Unknown Hazards Procedures," at the end of this section for properly handling underground tanks, gases, odors, and uncontained spills.

7-106A Hazardous Materials

Many hazardous materials are used in the construction of highway facilities. Employees must take appropriate precautions to minimize their exposure and use protective clothing and equipment. Contractors must submit material safety data sheets and obtain permission from the resident engineer before bringing any hazardous material onto the job site. For instructions, guidelines, and requirements for handling hazardous materials to ensure employee safety, see Chapter 16, "Hazardous Materials Communication Program," of the *Caltrans Safety Manual*. For guidelines for the use of pesticides, see Section 4-20, "Erosion Control and Highway Planting," of the *Construction Manual* (manual).

Some special permits are required for dealing with hazardous materials during construction. Demolishing a bridge, whether new, old, or temporary, requires an asbestos survey and a permit from the local air quality management district. Reusing soils contaminated with aerially deposited lead at concentrations exceeding regulatory thresholds is generally prohibited by state hazardous waste laws and regulations. For low levels of lead contamination, Caltrans has a variance issued by the Department of Toxic Substances Control (DTSC), which exempts Caltrans from certain hazardous waste regulations and allows reuse of soils as long as specific requirements are met. This variance is not automatic. To invoke the variance, you must notify DTSC at least five days before construction of the project begins. The appropriate Reginonal Water Quality Control Board must also be notified.

For guidance regarding special permit and variance requirements and procedures, contact the district environmental- construction liaison or district environmental unit.

7-106B Hazardous Waste

District construction division must have a designated district hazardous waste coordinator who will carry out necessary administrative functions for hazardous waste. The coordinator will work with other functional areas in the district and headquarters to do the following:

- Identify hazardous waste training needs.
- Ensure the proper notifications if unidentified waste is found during construction.
- Provide field personnel with procedures and other information so that the personnel may safely deal with known and unknown waste.

Caltrans construction employees must follow safe practices and minimize their exposure when dealing with hazardous wastes. Minimize potential risks during project construction by having all construction personnel follow the general procedures below:

- After unknown and potentially hazardous wastes (including underground tanks) are discovered, cease construction work in that area.
- Secure the vicinity of the find by cordoning off the area with barriers or fences, and evacuate the vicinity if the resident engineer deems such an action necessary.
- Prohibit construction personnel from any exploratory or investigative work that would result in further personal exposure. Such personnel are prohibited from taking samples or testing potentially hazardous waste. This prohibition includes activities such as the following:

  1. Touching, smelling, or ingesting suspected materials.

2. Climbing into trenches or enclosed areas where contamination is suspected.

3. Reaching, looking, or placing a foreign object (such as a stick to probe or a rock to test depth or to determine the presence of a liquid) into exposed or leaking tanks or other enclosed spaces.

- For any necessary exploratory, investigative, or cleanup work, use specialized consultants or safety workers who are fully trained, licensed, and qualified for hazardous waste work in accordance with state and federal regulations.
- Because of potentially catastrophic health effects, the Code of Federal Regulations, Title 29, Part 1910.120 (29 CFR1910.120) requires that no one enter the designated exclusion zones until the establishment of a complete and effective "hazardous waste worker protection program" or until the consultant has determined no exposure danger exists. (The designated exclusion zones are delineated in the consultant prepared hazardous waste site safety plans.)

7-106B (1) Hazardous Waste Disposal Contracts

When dealing with the identification, assessment, and mitigation of hazardous material or waste, the resident engineer must obtain technical assistance. This assistance is available from the district hazardous waste coordinator and staff in the Division of Environmental Analysis' Environmental Engineering Processes (EEP) Office. The EEP is responsible for providing construction hazardous waste emergency contracts and providing procedural direction. Procedures for using this contract are on the Division of Environmental Analysis' web site: http://www.dot.ca.gov/hq/env/

When using construction hazardous waste emergency contracts, the resident engineer must request all services and act as the contract manager. The resident engineer may not delegate the overall responsibility for the hazardous waste portion of the project. The resident engineer reports all expenditures for hazardous waste to the construction hazardous waste coordinator in the district construction office.

The resident engineer must also coordinate activities under the contract with other Caltrans functional units. When hazardous waste or underground tanks are found, the resident engineer notifies both the district and the Division of Construction. The resident engineer also notifies the district Proposition 65 coordinator and the EEP in Sacramento.

As contract manager, the resident engineer must do the following:

- Provide funds for the work from project contingency funds or from supplemental funds obtained through a funds request.
- Request services under the contract.
- Prepare the work request.
- Process the work request authorization through the Division of Environmental Analysis.
- Authorize the contractor to begin work.
- Ensure work is performed as stipulated in the work request and according to the contract terms.
- Review and approve invoices for payment.
- Review reports.
- Maintain project records in regard to the hazardous waste work.
- Evaluate contractor performance when work is not performed satisfactorily.

- Sign manifests for hazardous waste disposal.
- Pay manifest fees.
- Obtain a temporary United States Environmental Protection Agency identification number.

7-106B (2) Removal of Yellow Traffic Stripe and Pavement Markings

Follow the procedures below when assessing, removing, and disposing of yellow traffic stripe and pavement marking materials on all projects.

7-106B (2a) Construction contract review:

The resident engineer must review the construction contract to determine whether yellow traffic stripe and pavement marking material must be removed. If so, the resident engineer must also determine whether special handling as a hazardous waste is specified. The project may proceed as planned if one of the following situations exist:

- All yellow traffic stripe and pavement marking material to be removed has been previously assessed and found to be free of lead.
- Yellow traffic stripe or pavement marking material to be removed has been tested and found to contain lead, and its removal and disposal as a regulated or hazardous waste is specified.
- If yellow traffic stripe and pavement markings are to be removed and the removal has not been addressed in the contract, the resident engineer must consult with the district hazardous waste coordinator and have lead testing done.

7-106B (2b) Testing and removal requirements:

If identified in the special provisions, the resident engineer may order the prime contractor to test the striping and marking materials for lead. This testing should be paid for as extra work. Depending on the result of testing, proceed as follows:

- *Nonregulated levels of lead found*: If no lead is detected by the initial testing or is detected at levels less than 350 ppm total lead and less than 5 ppm soluble, no additional testing or collection of residues is required. The contractor can dispose of the residue as with any other construction debris.
- *Nonhazardous regulated levels of lead found*: When lead levels detected by testing are less than 5 ppm soluble and less than 1,000 ppm total but more than 350 ppm total, an employee safety and health plan does not have to be prepared. Measures to suppress dust and follow good personal hygiene are still required. All residue resulting from yellow traffic stripe and pavement marking removal, including any removal agent, must be collected and stored in sealed drums. The material must be retested and disposed of appropriately as set forth in "Retesting and Disposal," later in this section.
- *Hazardous levels of lead found*: Should the lead levels detected by this initial testing be greater than 1,000 ppm total lead or greater than 5 ppm soluble lead, treat removal as lead abatement work. Even when not contemplated in the contract, the abatement of lead contained in striping by the construction contractor is allowable under Section 25914.2 of the Health and Safety Code and Section 7058.7(d) of the Business and Professions Code. The contractor must test the striping material when directed but may refuse to do the abatement work when it was not included in the original contract. If the contractor refuses

the lead abatement work, one of the construction hazardous waste emergency contractors will perform the work. Proceed as follows when lead abatement is required.

- *Training*: The contractor responsible for lead abatement must provide a safety training program that meets the requirements in Section 1532.1, "Lead," of the *Construction Safety Orders*. Before performing any yellow traffic stripe and pavement marking removal, personnel (including Caltrans employees) who have had no prior lead training must complete the safety training program.
- *Lead abatement program*: Work practices and worker health and safety must conform to Section 1532.1, "Lead," of the *Construction Safety Orders*. The contractor must submit the written compliance programs required in Subsection (e)(2), "Compliance Program," of Section 1532.1, to the engineer before starting to remove yellow traffic stripes and pavement markings and at such times when revisions to the programs are required. An industrial hygienist certified by the American Board of Industrial Hygiene must prepare the compliance programs. A competent person who is capable of taking corrective action must monitor the programs. Require that copies of all inspection reports made in accordance with Section 1532.1 are given to the resident engineer.
- *Storage of residue*: The contractor must store the residue from traffic stripe and pavement marking removal as follows:

  1. While waiting for any test results required by the disposal facility, store the collected residue in properly labeled containers approved for the transport of hazardous waste by the U.S. Department of Transportation.
  2. Cover and handle the containers in such a manner that no spillage will occur.
  3. Enclose the stored containers with temporary fencing at a location within the project limits approved by the resident engineer. Fencing must not be plastic.
  4. Begin disposing of the contained residue no more than 90 days after accumulating 100 kg of residue.

- *Retesting and disposal*: Before disposal, retest the residue collected in the containers. The level of lead waste contained in the removed material will be diluted by pavement debris that has also been removed. Depending on the test results, dispose of the stored material as follows:

  1. The contractor can dispose of the stored material in the same manner as any other construction debris when the stored material's lead content is detected at levels less than 350 ppm and less than 5 ppm soluble.
  2. The abatement contractor must take the stored residue to a Class 1 disposal site or a specially permitted Class II disposal site when its lead content is detected at levels greater than 350 ppm but less than 1,000 ppm total lead and less than 5 ppm soluble. However, in this case, the stored residue does not require hazardous waste manifesting or handling by a registered hauler. In the project files, retain the records of the testing and the amounts of residue tested and disposed.
  3. Treat the stored residue as hazardous waste when its lead content is

detected to be at levels greater than 1,000 ppm total lead or greater than 5 ppm soluble. Keep records in accordance with current requirements for hazardous waste handling and disposal, and file them in the project files. The abatement contractor must dispose of all residues resulting from yellow traffic stripe and pavement marking removal at an approved Class 1 disposal facility in accordance with the requirements of the disposal facility operator. A transporter currently registered with the Department of Toxic Substances Control using correct manifesting procedures must haul the yellow traffic stripe and pavement marking residue.

The abatement contractor must make all arrangements with the operator of the disposal facility and perform any testing of the yellow traffic stripe and pavement marking debris required by the operator. The abatement contractor must submit the name and location of the disposal facility along with the testing requirements to the engineer before starting removal of yellow traffic stripe and pavement markings on the project. The resident engineer must obtain the United States Environmental Protection Agency identification number and sign all manifests as the generator. The resident engineer must also pay the manifest fees.

4. Unless the lead removal work was already contemplated in the construction contract, pay as extra work all work performed for testing, additional removal costs, retesting, and additional disposal.

7-106C Aerial Deposited Lead

In areas where aerial deposited lead (ADL) has impacted soils, the contract specifications will set forth required procedures for worker protection, handling and reuse or disposal. Reuse of ADL soils with lead concentrations exceeding regulatory thresholds is allowed when the Department of Toxic Substances Control (DTSC) ADL variance requirements are met and the variance is properly invoked through notification of DTSC and the appropriate RWQCB.

The resident engineer must verify that the resident engineers file or the materials information handout include a copy of the project variance submittal sent to DTSC. If the DTSC submittal is not with the file or the materials information handout, the resident engineer must contact the project engineer to determine if the submittal was sent to the DTSC. If the submittal was not sent to DTSC, the resident engineer must contact the district environmental – construction liaison or hazardous waste coordinator for assistance in preparing and sending the submittal which must be received by DTSC at least five days before the start of construction.

7-107 Hazardous Spills

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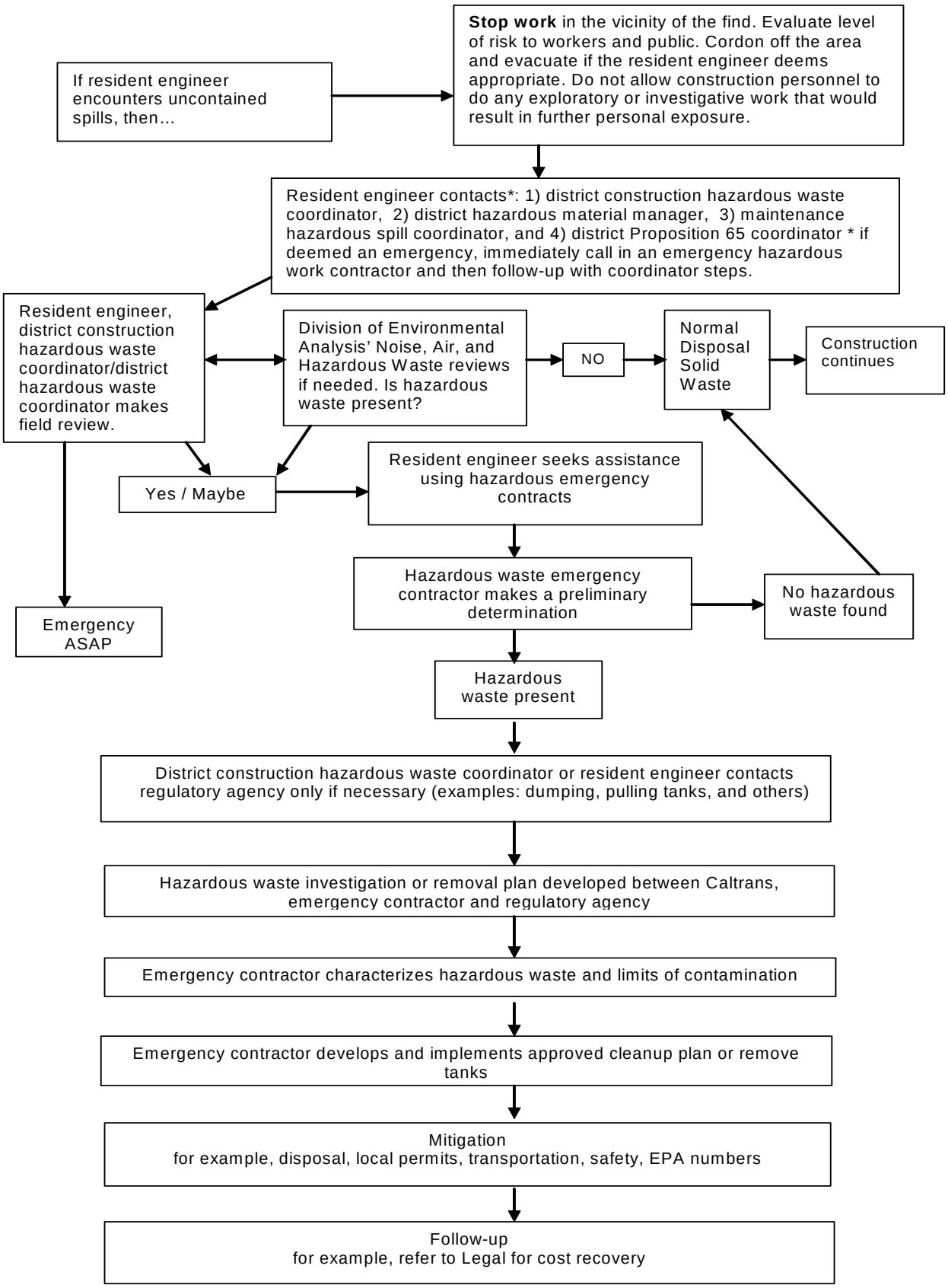
Each district has a hazardous material manager and other personnel trained in handling highway spills. When an unknown substance is deposited or spilled from a vehicle on a roadway caused by the traveling public, contact the district hazardous material manager for assistance in containment, identification, and cleanup within the Caltrans Right-of-Way. For instructions on reporting hazardous highway spills, see Section 2-3, “Major Construction Incidents,” of this manual. If the contractor spills hazardous materials, the contractor must comply with applicable laws and regulations as well as cleanup and disposal.

If an unidentified spill is expanding and threatening adjacent sensitive areas, begin containment immediately if it can be done without personal exposure.

Conventional methods for containment include interception with dikes or ditches at sufficient distance downstream to avoid contact with the material. Prevent employees, workers, or the public from being exposed to any unknown spilled material.

Table 7-1.1 Unknown Hazards Procedures



7-108 Certification of Environmental Compliance

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A Certificate of Environmental Compliance (CEC) is prepared at the end of the project to document the mitigation monitoring and reporting program required under the California Environmental Quality Act for every construction project unless no mitigation measures were identified or undertaken. This requirement is shown in Section 270.50 of the *Guide to Caltrans Capital Work Breakdown Structure*. The basic purpose of the CEC is to certify that the mitigation measures were implemented in accordance with the contract.

The resident engineer is responsible for ensuring that the CEC is prepared and distributed. The CEC lists all mitigation measures for the project and includes a discussion of:

- The effectiveness of the constructed mitigation measures;
- Whether the mitigation measures were met and, if not, what measures were implemented;
- How well the contract specifications satisfied all environmental commitments and concerns; and
- Additional mitigation measures required as a result of project changes along with their outcomes.

The Environmental Commitments Record can serve as the basis for the CEC documentation.

The CEC will be signed by all responsible parties including the environmental - construction liaison, environmental generalist, the project manager, and the resident engineer.

The CEC must be sent to the State Office of Planning and Research (1400 Tenth Street, Sacramento 95814) for review and filing. Provide copies of the CEC to all of the district or regional organizational units responsible for the project including the Divisions of Environmental, Design, Project Management and Construction.

Discuss the CEC fully at the project close out meeting. It identifies the lessons learned on the project and areas in environmental compliance that may need improvement.

7-109 Solid Waste Disposal and Recycling Reporting

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Contracts containing special provisions for solid waste disposal and recycling reports require the contractor to chronicle landfill disposal and material recycling activity performed through the duration of the contract. The contractor reports this information via the Division of Construction Form CEM-2025, “Solid Waste Disposal and Recycling Report.”

The contractor submits the annual report to the resident engineer by the 15th day of January, and five days following contract acceptance. If no work was conducted during the reporting period, the report states no work was performed during that period.

Contract special provisions require that all reports be received from the contractor in good order before the contract can be finalized. Review all reports submitted by the contractor for accuracy. Compare the Solid Waste Disposal and Recyclying Reports total volumes of materials taken to, and diverted from landfills with the approximate volume of work requiring the removal of materials. Before approving each report, resolve any discrepancies in material type or volume with the contractor. Reports submitted by the contractor that are delinquent or grossly inaccurate are subject to a deduction of $10,000 (ten thousand dollars) for non-compliance.

Submit approved Solid Waste Disposal and Recycling Reports directly to the district recycling coordinator and send a copy to the statewide recycle coordinator in the Division of Design. Contact information about district and statewide recycling coordinators is available via the following Internet address:

http://www.dot.ca.gov/hq/oppd/ab75/coordinators.htm